Proposed Agreement between California Energy Commission and The Regents of the University of California, - CIEE

Title: State Partnership for Energy Efficient Demonstrations
Amount: $2,515,918.00
Term: 42 months
Contact: David Weightman
Committee Meeting: 4/4/2011

Funding

FY	Program	Area	Initiative	Budget	This Project	Remaining Balance	
09	Electric	IAW	Water and Wastewater	$500,000	$71,398	$0	0%
09	Electric	Buildings	Strategic Demonstrations	$2,200,000	$1,000,000	$0	0%
09	Electric	Buildings	Strategic Demonstrations	$2,200,000	$1,200,000	$0	0%
09	Electric	IAW	Energy Efficiency	$1,424,567	$244,520	$0	0%

Recommendation

Approve this agreement with The Regents of the University of California, Office of the President, California Institute for Energy and the Environment, for $2,515,918. Staff recommends placing this item on the discussion agenda of the Commission Business Meeting.

Issue

Absent real world demonstration, PIER technologies are unlikely to cross the "valley of death" and make the market connections that lead to commercialization and wide spread deployment. The development and demonstration of PIER technologies require large scale installations to better understand cost-effectiveness and market acceptance. Strong energy conservation policy goals have been established by the Energy Commission, California Public Utility Commission (CPUC), Executive Orders, the State legislature and others. For example, Zero-Net Energy (ZNE) building goals included in the Integrated Energy Policy Reports for 2007 and 2009, and the CPUC's 2008 energy efficiency strategic plan have set goals of retrofitting 50% of the existing residential and commercial buildings to net zero by 2020 and 2030, respectively. To achieve these goals, significant advances are needed in the way we design, construct, monitor, control and analyze our built environment. An important aspect of deploying and demonstrating PIER technologies is to demonstrate comprehensive, best-practice energy retrofit efforts and to help advance energy-related building codes and standards. The integration of new technologies into the marketplace and incorporation of their efficiency specifications into future codes and standards will be key to reaching California's energy efficiency policy goals.

Background

Since 2004, the PIER Program has conducted many demonstrations of PIER technologies at college campuses, state and local government facilities, and data centers. These efforts validated performance

in actual end-use applications and resulted in better understanding of the cost-effectiveness and market acceptance of these technologies. The demonstration program provides an important way for PIER technologies to be widely distributed throughout California. The first phase of the State Partnership for Energy Efficient Demonstrations successfully demonstrated individual technologies and practices in the target market sectors, sometimes leading to scaled-up deployment of the technologies in conjunction with Investor Owned Utility (IOU) partnerships and incentive programs. This phase of the State Partnership for Energy Efficient Demonstration Program (SPEED) program will focus on large scale deployment of proven PIER technologies, by providing technical assistance and bulk purchasing resources along with technical and economic feasibility information and documentation on successful projects. The demonstration of PIER technologies is a crucial component to expand deployment of these technologies to a broader range of facilities to achieve greater national awareness to reach full commercialization potential.

Proposed Work

The SPEED Program will work with the University of California, California State University, California Community Colleges, federal, state and local governments, and others to maximize the deployment of PIER technologies. The SPEED Program will accomplish this by:

- Conducting field demonstrations of PIER technologies that have had minimal or no demonstrations. These demonstrations are intended to prove technical and financial efficacy.
- Providing technical assistance to facilitate large scale deployment of proven PIER technologies that have been widely demonstrated. Technical assistance could include energy audits, bulk purchase procurement, specification preparation and monitoring and verification of savings. Large scale installations refers to implementation of PIER technology retrofits at a campus-wide, multi-campus or multi building/facility retrofits.
- Establishing a procurement process to secure commercially available PIER technologies at reduced costs via bulk purchasing.
- Conducting education and market outreach with existing and potential customers.
- Working with Utilities, higher education facilities and government groups to expand the awareness of PIER technologies to potential customers, leverage Utility program resources i.e., securing utility rebates for eligible PIER technologies deployed or demonstrated in the field.

Justification and Goals

This project "[will develop, and help bring to market] increased energy efficiency in buildings, appliances, lighting, and other applications beyond applicable standards, and that benefit electric utility customers" (Public Resources Code 25620.1.(b)(2)), (Chapter 512, Statues of 2006)); and supports California's goal to allocate and prioritize RD&D funding for energy efficiency and demand response, including new communication and control technologies, planning models, end-use technologies, and validation methodologies per the Energy Action Plan 2005.

This will be accomplished by:

- Piloting the scaled deployment of established PIER technologies at the campus wide, multi-campus and whole buildings/site levels and develop a transferable model for engaging other market sectors for wide-scale PIER technology deployment.
- Recruiting sites and implement demonstrations of newer PIER technologies to prove technical and financial efficacy of these technologies to potential markets.